AMENDMENT

Please amend the application without prejudice, without admission, without surrender of subject matter, and without any intention of creating any estoppel as to equivalents as follows.

IN THE CLAIMS

1-58. (Cancelled)

59. (Currently amended) An isolated DNA molecule encoding a protein with the function of a plant amino acid transporter, selected from the group consisting of:

(a) a DNA molecule encoding a protein comprising the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4;

(b) a DNA molecule comprising the nucleotide sequence of SEQ ID NO:1 or SEQ ID NO:3; and

(c) ~~a DNA molecule which hybridizes under stringent conditions with one of the DNA molecules mentioned under (a) or (b) or is complementary thereto; and~~

~~(d)~~ a DNA molecule whose nucleotide sequence deviates from the sequence of the DNA molecule mentioned under (a) or (b) ~~(a), (b) or (c)~~ owing to the degeneracy of the genetic code.

60. (Previously presented) A plasmid comprising the isolated DNA molecule of claim 59.

61. (Previously presented) A method for producing a transformed host cell comprising transforming the cell to comprise the isolated DNA molecule of claim 59.

62. (Previously presented) A transgenic plant transformed to contain the isolated DNA molecule of claim 59 and comprising an altered amount of amino acid transporter activity relative to a non-transformed plant.

63. (Previously presented) A transgenic plant comprising a cell, wherein the cell comprises the isolated DNA molecule of claim 59.

64. (Previously presented) A bacterium comprising the isolated DNA molecule of claim 59.

65. (Previously presented) A bacterium comprising the plasmid of claim 60.

66. (Previously presented) The plasmid of claim 60 further comprising a promoter operably linked to the isolated DNA molecule.

67. (Previously presented) The plasmid of claim 60 further comprising a

transcriptional termination sequence operably linked to the isolated DNA molecule.

68. (Previously presented) The plasmid of claim 66 further comprising a transcriptional termination sequence operably linked to the isolated DNA molecule.

69. (Previously presented) The plasmid of claim 60 wherein the isolated DNA molecule is in the sense orientation.

70. (Previously presented) The plasmid of claim 60 wherein the isolated DNA molecule is in the anti-sense orientation.

71. (Previously presented) A method for producing a host cell capable of an increased amount of an amino acid transporter relative to a non-transformed cell comprising transforming the cell with the plasmid of claim 69.

72. (Previously presented) A method for producing a host cell capable of a decreased amount of an amino acid transporter relative to a non-transformed cell comprising transforming the cell with the plasmid of claim 70.

73. (Previously presented) A yeast strain comprising the isolated DNA molecule of claim 59.

74. (Previously presented) A method for altering the transport of metabolites in a host cell comprising transforming the cell so as to comprise the isolated DNA molecule of claim 59.

75. (Previously presented) A cell obtainable from the method of claim 61.

76. (Previously presented) A cell obtainable from the method of claim 71.

77. (Previously presented) A cell obtainable from the method of claim 72.

78. (Previously presented) A cell obtainable from the method of claim 74.

79. (Previously presented) A transgenic plant comprising an altered amount of amino acid transporter activity by comprising a number of copies of the isolated DNA molecule of claim 59.

80. (Previously presented) A method for producing a plant comprising:

(a) transforming plant cells to comprise the isolated DNA molecule of claim 59; and

(b) regenerating a transformed plant from the plant cells.

81. (Previously presented) The method of claim 80, wherein the isolated DNA molecule is in the anti-sense orientation and the transformed plant has a decreased amount of amino acid transporter relative to a non-transformed plant.

82. (Previously presented) The method of claim 80, wherein the isolated DNA molecule is in the sense orientation and the transformed plant has an increased amount of amino acid transporter relative to a non-transformed plant.

83. (Previously presented) A plant obtainable from the method of claim 80.

84. (Previously presented) A method for identifying a nucleic acid molecule encoding a plant amino acid transporter comprising complementing a yeast proline transport mutation with a plant cDNA by transforming the yeast with the plant cDNA, propagating the yeast in the presence of proline, and isolating the plant cDNA from the yeast, thereby identifying the nucleic acid molecule encoding the plant amino acid transporter.

85. (Previously presented) A method for identifying a nucleic acid molecule encoding a plant amino acid transporter comprising complementing a yeast histidine synthesis and transport mutation with a plant cDNA by transforming the yeast with the plant cDNA, propagating the yeast in the presence of proline, and isolating the plant cDNA from the yeast, thereby identifying the nucleic acid molecule encoding the plant amino acid transporter.

86. (Previously presented) An isolated DNA molecule comprising a nucleotide sequence encoding a plant proline transporter for membrane transport obtained by the method of claim 84.

87. (Previously presented) An isolated DNA molecule comprising a nucleotide sequence encoding a plant histidine synthesis and transporter protein for membrane transport obtained by the method of claim 85.

88. (Previously presented) An isolated DNA molecule comprising a nucleotide sequence encoding a plant proline transporter or histidine synthesis and transporter protein for membrane transport.